

## 03/31/14    Agenda

- Remediation Packet for Unit 7 is on line
  - Due 4/7
- Polynomials - day 6 - Greatest Common Factor
- Homework
  - Worksheet 5 - Greatest Common Factor

-BREAD  
-CHEESE  
-LETTUCE  
-TOMATO  
-MAYO

## BURGER

-MEAT  
-LETTUCE  
-TOMATO  
-BACON  
-BREAD  
-CHEESE  
-CATSUP  
-PICKLES  
-MAYO

## TURKEY SANDWICH

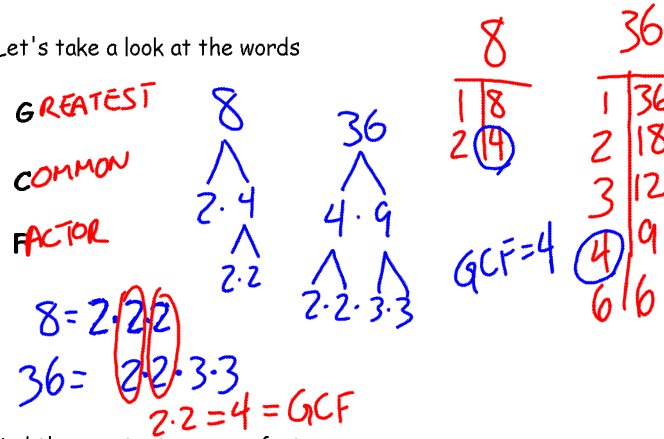
-LETTUCE  
-TOMATO  
-MAYO  
-MEAT  
-BREAD  
-MUSTARD  
-CHEESE

## VEGGIE SALAD

-LETTUCE  
-CROUTONS  
-RANCH  
-MAYO  
-TOMATO  
-CHEESE  
-CARROTS  
-OLIVES

What is a GCF? **GREATEST COMMON FACTOR**

Let's take a look at the words



Find the greatest common factor

1. 12 and 18

GCF: 6

12  
 $\overline{)12}$   
 $2 \overline{)12}$   
 $6$

18  
 $\overline{)18}$   
 $2 \overline{)18}$   
 $9$   
 $3 \overline{)9}$   
 $6$

12 =  $2 \cdot 2 \cdot 3$   
 18 =  $2 \cdot 3 \cdot 3$   
 $2 \cdot 3 = 6$

2. 4 and 20

GCF: 4

4  
 $\overline{)4}$   
 $2 \overline{)4}$   
 $2$

20  
 $\overline{)20}$   
 $4 \overline{)20}$   
 $5$

4 =  $2 \cdot 2$   
 20 =  $2 \cdot 2 \cdot 5$   
 $2 \cdot 2 = 4$

3.  $3a + 6$

GCF: 3

$3a = 3 \cdot a$   
 $6 = 3 \cdot 2$

4.  $12x + 20$

GCF: 4

$12x = x \cdot 2 \cdot 2 \cdot 3$   
 $20 = 2 \cdot 2 \cdot 5$   
 $2 \cdot 2 = 4$

How to factor using the GCF method:

1. Pull out the LARGEST number you can from each term.
2. Find the variable(s) that every term has... pull out the one with the SMALLEST exponent.
3. Put the remaining amounts in PARENTHESES.

Factor the following using the GCF method.

$$2a(1+2a)$$

$$2a + 4a^2$$

$$5. \quad \underline{2}a^1 + \underline{4}a^2$$

$$2a(1+2a)$$

GCF

$$\begin{array}{r} 4 \\ 1 \overline{) 4} \\ \underline{4} \\ 0 \end{array} \quad \begin{array}{r} 14 \\ 1 \overline{) 14} \\ \underline{14} \\ 0 \end{array}$$

$$6. \quad \underline{4}x^2 - \underline{14}x^3 + \underline{12}x^7$$

$$2x^2(2-7x+6x^5)$$

GCF

$$\begin{array}{r} 12 \\ 1 \overline{) 12} \\ \underline{12} \\ 0 \end{array}$$

$$7. \quad 8y^3 + 4y^2 + \underline{2}y^1$$

$$2y^1(4y^2+2y+1)$$

Factor the following using the GCF method.

$$8. \quad \underline{2}x^2y^5 + 16x^4y^3 - 8x^3y^{10}$$

$$2x^2y^3(y^2 + 8x^2 - 4xy^7)$$

$$9. \quad \underline{7}y^2\underline{z} + 21z^4 - 28y^6z^2$$

$$\underline{7z} (y^2 + 3z^3 - 4y^6z)$$

GCF

$$10. \quad 5x^{10}p^{12}z^3 - 20x^{15}p^{11}z^4 + 10x^{14}z^5$$

$$11. \quad 7x^2 - 5x + xy$$

$$12. \quad kma + kmb + kmc + kmd$$

$$13. \quad 2m + 2a + 2t + 2h$$

Summary:

Remember!!! It must be the GREATEST FACTOR that ALL the terms have in COMMON for it to be the GCF!!